E-tailing in India – Innovative Supply Chain Logistics Infrastructure

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1. Introduction

India is at the helm of the digital revolution. Declining broadband tariff aided by the launch of 3G services driving the trends more than anticipated. This has led to an ever increasing number of "netizens". Furthermore, the anticipated launch of 4G services is expected to significantly augment the internet user base. Of late, internet has become an integral part of this growing population segment for remain connected with social media such as face book, twitter, quicker, whatsapp etc. accessing e-mails, buying movie, train & bus tickets, ordering food and groceries.

The changing lifestyles of the country's urban & semi urban population have also led many people relying on the internet for their shopping needs. Internet service providers are extremely busy to attend to customer complaints rather than the electricity utilities. The convenience of shopping from the comfort of one's home and having wide product assortment to choose from has changed the habit of people to rely more on the online medium.

This rush is faster than an Formula 1 race. Unable to cope with the unprecedented festive demand from on line shoppers, a reputed logistics company has forced to ask even its top level managers to handle phone calls from the irate consumers waiting for their delayed packages, suggesting that e-tailing giants and their logistics partners still have not figured out the shopping patterns of Indian consumers. And what is worse , these problems are not going to be solved soon. Today the e-tailing companies are fighting for the market share and accepting the orders and payments without thinking about the logistics issues.

The concern over the capacity building to handle demand surge comes in the wake of Flipkart's Big Billion day sale debacle held on 6-10-2014 when stocks disappeared within seconds, orders were cancelled at the last minute and the website crashed several times, leaving millions of on line shoppers high and dry. Resulting angry customers.

Similar episode happened with respect to Snapdeal on 11-11-2014 when the payment checkout page was not working after spending cores on advertising. This shows that the e-tailing industry in India still in its infancy and it will take some time for the players to work out the right strategies.

Today these companies are not able to handle sudden demand surges especially the vital function namely the logistics both inbound as well as outbound resulting in the snapping of vital supply chain. The Indian customers are highly sensitive to price and they cannot wait for the delivery. They chose the retailer based on how fast they can deliver with over 60 % preferring same or next day delivery. On the contrary, in this situation the on line shoppers need to wait for two weeks for products to arrive compared with 2-3 days during normal days.

This paper attempts to evaluate and highlight the potential e-tailing holds and the role it can play in context of emerging Indian consumers, and economy. Our inferences in this support the thesis that e-tailing needs to be viewed objectively and individually. The following key points summarize the findings discussed more broadly.

- In India, e-tailing has the potential to grow more than hundredfold in the next 7 years to reach a value of USD 76 billion by 2021. The country's growing Internet-habituated consumer base, which will comprise ~180 million broadband users by 2020, along with a burgeoning class of mobile Internet users, will drive the e-tailing story.
- E-tailing can provide employment to ~1.45 million people by 2021. Its growth will spur the creation of new capabilities and human skills in the areas of logistics, packaging, and technology. Additionally, such growth will promote the rise of service entrepreneurs who will have the potential to earn ~USD 7.5 billion, annually, by 2021. It will open up international markets for the SME sector and can become an important facilitator for the growth of the telecom and domestic air cargo industries.
- The growth of e-tailing in India will be complementary to the growth of traditional retail, and in no way be at cross purposes. On the contrary, it will improve efficiencies and reduce transaction costs in retailing and thereby boost the productivity of manufacturers (SMEs) and service providers.
- The potential of India's e-tailing will continue to remain untapped if the current mind set, of exclusion and seeing e-tailing as a "passing fad", prevails. E-tailing is different from retail and therefore requires a different mind set and fresh thinking from the policy makers as well as the private sector.

As per Technopak's estimates, India's GDP growth, in real terms, will average nearly 6% over the next decade. This growth will therefore translate to an increase in merchandise retail market, from the current ~USD 490 billion, to USD 810 billion, by 2021, in real terms, and USD 1.4 trillion in nominal terms (assuming a 7% inflation rate).

2. Types of Retail Model in India

There are three types of destinations that address retail sales in any market:

· Traditional Retail: Brick & Mortar
· Corporatized Retail: Brick & Mortar
· Corporatized Retail: E-tailing

In India, the retail market is, at present, primarily served by traditional brick & mortar stores which make up 93% of the total market. Corporatized brick & mortar retail caters to ~7%, while e-tailing's share is ~0.1%. In the coming decade, these three retail destinations will behave differently in terms of their share of total retail sales.

E-tailing will emerge as a viable third alternative by which corporatized retail can expand its share of the total retail pie. Technopak estimates that e-tailing in India will grow from the current USD 0.6 billion to USD 76 billion by 2021, i.e., more than hundredfold. The key reason for this disruptive growth lies in the fact that the market-enabling conditions and ecosystem creation for e-tailing will outpace the same for corporatized brick & mortar retail. This growth will offer many advantages to the Indian economy, besides bringing in immense benefits to consumers.

In this light, it is imperative to have an objective debate on e-tailing. Unfortunately, the current debate on e-tailing has largely to do with e-tailing's current share of the total Indian retail pie, which is just ~0.1%. Moreover, the debate also lacks rigor in terms of data and analysis in visualizing the impact of e-tailing on India's economy.

The fact that e-tailing's growth is going to be disruptive is supported by several factors. This paper, in the first part, establishes these factors.

Emergence of m-commerce, improving customer experience, on line reputation management and informing customers about products were the major trends followed by the players.

Drivers of e-tailing:

The following are the e-tailing drivers.

a) Increasing Internet Penetration
b) Availability of various types of devices for connectivity and transactions.
c) Net savy users
d) Convenience of transactions (24x7)
e) Increase in spending power and disposable income.
f) Secure Payment gateways for financial transactions.
g) Social media marketing
h) Global reach
i) Low customer acquisition cost
j) Confidentiality on the purchases made (cannot be done across the counter)

3. Differences Between Traditional Retail And E-Tail

	Traditional retailing	E-tail
Location and Presence	· Physical branded goods easily identified and found. · Most traditional and oldest location for retail. · Commands attention In the retail landscape.	· Location is the web address, available globally through internet connection. · Can establish a presence through cross promotions (links between sites)
Merchandising	· Use of store space and proper assortment. · Signage other product information tools.	· Web page layout · Relationship between product and text · Signage and other product information tools · Category search and sorting mechanism · Interactive product locations
Promotional Activity	· Pricing strategies and campaigns can be implemented on a daily basis	· Pricing strategies and campaigns can be implemented instantaneously depending on internal organizational constraints
Inventory Management	· Product must be available at multiple store locations to maximize purchasing opportunities	· Multiple inventory ownership options, with most prominent being traditional, "just-in-time" and a hybrid of two.

Overall, the trend for online shopping is very positive. The reasons for this optimism, according to dot-com players, are an increased availability in online payment options, a wider range of merchandise, online tracking of shipments, 24-hour, seven-day-a-week customer care, and a larger Internet reach at cheaper costs. Today, the customer has a choice of payment modes: credit cards, cash on delivery, Internet banking accounts, demand drafts and cash on order. Table 2 provides the comparative analyses of traditional retailing and e-tailing.

Traditional Retailing vs. E-Tailing

	Strength	Weaknesses
Traditional retailer's	• Established brand value/image • Established quality • Merchandising skills • Consumer acceptance of current proposition • Can touch and feel products	• Lack of execution speed Lack of technology and its competence • High advertising costs
E-tailer's	• Low overhead • IT infrastructure • Execution speed • Low advertising costs	• Concerns over security Lack of trust and dependency among the users • Users are less due to high technology

4. Challenges And Opportunities On E-Retailing In India

Impediments for the growth of e-tailing. They are: (i) consumers can not touch and feel products, (ii) orders can take several days to be delivered, (iii) shipping costs are often excessive and (iv) customer service is often poor and (v) Returns can be difficult.

The consumer characteristics as potential obstacles to Internet growth, including consumer traditional shopping experiences, an aversion or lack of access to the required technology and the perceived risks of electronic shopping.

(I) Controlling Customer Data
As the delivery services are becoming more modern in using information technology, e-tailers may face some risks to properly handle on their consumer data. The data related to the socioeconomic status of customers to their buying patterns and preferences, helps intermediaries and shippers reduce costs.

(II) Problems With The Payment System
People in India are not accustomed to the online shopping system and moreover the online payment system through the credit card is also totally alien to them. Most of them do not avail of the transaction facilities offered by the credit cards. They are also dubious regarding the online payment system through the credit cards. Companies should protect their system from hackers as customers often worry about theft of their personal information, such as a credit card number. Both technological and legal tools should be used to enhance the security of e-commerce

(III) Lack Of Full Cost Disclosure
It is easy to compare the basic price of an item online, it may not be easy to see the total cost up front as additional fees such as shipping are often not be mentioned.

(IV)Handling Returns
The problem of returns is very much prominent in e-tailing businesses in India. The customers can return defective or unwanted merchandise which he receives. E-commerce retailers, with their emphasis on convenience and customization, must match this standard of service. At present, they do not.

(V) Delivering The Goods Cost-Effectively
At present, every single transaction challenges e-tailors to deliver the goods quickly, cheaply and conveniently. The existing mode for home delivery works well for letters and flat packages but not for e-tailing as it encompasses with high volumes and wide variety of package shapes and sizes.

(VI)Problems with Shipping
The customers using the online shopping channel should be assured that the products that they have ordered would reach them in due time.

(VII) Offline Presence
The customers of India should be assured that the online retailers are not only available online but offline as well. This gives them psychological comfort and trust. The concept of e- retailing or online retailing in India has not gained prominence as Indians prefer to touch the products physically before buying them. Studies have also revealed the preferences of the customers towards the traditional shopping methods. Hence the online retailer in India should first make it a point to spot the potential customers and accordingly plan out the product.

(VIII) Language Problem
Most internet retail shops use English as their mode of communication. English may not be comprehensible to the majority of the Indian population. To increase the customer base, content in the online retail shops should be provided in local language.

With the economic slowdown worldwide, many retailers who preferred having a presence are looking to go online at minimal costs and keep the sales increasing. Compare to a traditional brick and mortar store front which has a commercial address and where address and where customers can transact face-to-face, e-store is relatively small, convenient and low-cost start-up. The only costs involve in the e-tailing platform include the monthly hosting and ISP bills. With a web-site, an online retail has the adaptability to gauge the market condition and market attractions accordingly. The opportunities of e-tailing industry in India are as follows:

(i) **Convenience:** Normally, online stores are usually available 24 hours a day, and many consumers have internet access both at work and at home.

(ii) **Price and Selection:** One of the biggest advantages of online shopping is to find out quickly deals for items at services with many different vendors. Search engines , on-line price comparison services and discovering shopping items can be used to find out sellers for a particular products or services. Some retailers also offer free shipping on sufficiently large orders. Searching an online catalogue can be faster than browsing the physical catalogue of a brick and mortar store.

(iii) **MARKET RESEARCH:** Retailers can use their online presence as a tool to gain valuable customer information to forecast future customer demand. Baker (2005) has pointed out that online market research has some powerful advantages, such as monitoring real-time buying decisions. In addition, online customers have the knowledge and experience necessary to answer the questions, which produces more accurate and reliable data.

(iv) **Online Customer Service:** In India, websites are becoming new channels for conducting customer service; therefore their general acceptance level will increase, due to the benefits provided to customers. For example, a customer could ask for a product introduction or a personalised product in the pre-purchase stage, and could also check the delivery status online. All such services can be available uninterrupted online, which is almost impossible in the physical world, due to the cost.

(v) **Promotional Tool:** A website can be used as a medium to conduct promotional experiments, due to the wide reach of the internet, and the low cost. Therefore, it will be a great opportunity for Indian companies to promote their businesses.

(vi) **Marketing Tool:** As indicated by Peterson et al., a website is also an effective channel to communicate with customers. Organizations do not need to rely solely on one-way communication media, such as TV and newspapers. The internet provides a two-way communication channel. As a new communication channel, the internet can provide benefits to retailers, such as low costs, interactivity, personalization, and continuous communication. In this connection, Wang has suggested that by better understanding consumers through customer relationship management, marketers can employ relationship marketing techniques in the retail market to provide personalized services.

5. Effective Strategies on E-Tailing in India

Currently e-retailers in India are focusing on producing sustainable and profitable business strategies for their Internet-based operations. Established retailers in India are using physical channels as well as the Internet to market their products. According to Dennis, online shoppers prefer shopping at web sites operated by established high-street retailers. Levy and Weitz have stated that generally retailers survive and prosper by satisfying customer needs more effectively than their competitors, addressing customer needs through effective. E-tailing in India has rapidly emerged, emulating non-store-based operations and demonstrate how the Internet can potentially completely redefine customer needs using the Internet and the web to create a virtual retail environment with extensive global coverage.

For designing an effective e-tailing strategy in India, it is therefore needed to understand the needs of individual customers. Successful e-tailing are concerned with high velocity, flexible systems and procedures, extremely high service levels, and full electronic connections to the trading community. In order to develop the right e-tailing strategy, the following five points need to be addressed. They are: (i) prompt delivery, (ii) supply chain, (iii) demand nature, (iv) reverse logistics, and (v) accuracy.

(I) Prompt Delivery
The first major challenge faced by e-retailers was high expectations for prompt delivery of Web orders by customers. One of several delivery options such as, express (next day), priority (three to four days) and regular (five to ten days) may be selected and paid for by the customer while ordering the product.

(II) Supply Chain
Ensuring supply of required amount of raw materials and products at the right time for the right price as well as proper slotting and picking methods are very much important for effective operating of e-tailing. E-retailers must have reliable supply-chain partners with the support of a back end supply-chain management systems. Proper slotting and picking methods

based on the size, weight and demand nature must be devised to receive, slot, pick and pack properly. A warehouse management system should be a part of the supply chain management system to oversee the activities like order sorting, packing, and final bar coding for shipment. Basic tracking system from despatch till delivery to customer is essential in the Supply Chain.

(III)   Demand Nature
Successful e-retailing companies will have to assess the supply and demand condition so that they can meet unpredictable demand. A news-worthy event can create a huge demand for a product within a short time. Accordingly seasonality factor also contributes to the unpredictability of the demand nature. Popular items and may need to be assessed on its future demand to avoid processing delays. Proper use of seasonality factors in forecasting models may contribute to better demand forecasting for highly unpredictable items.

(IV)   Reverse Logistics
In any retail business, some products are returned from the point of consumption. Therefore, the challenge is setting up infrastructure and procedures for reverse logistics. The process is not only inevitable but also gaining importance as a viable, sustainable and profitable business strategy. Procedures need to be established for returning orders. Drop-off points must also be set up. A customer wanting to return merchandise should be encouraged to have authorization to do so through the Web site. The e-tailors need to have an understandable product return policy on the Web. A copy of the same policy may also be included in the shipped package. A customer must identify the reason for returning the item. Based on the reason, one of several actions such as, restock, recycle, remanufacture, send back to the supplier may be taken. A flexible sorting or packaging line in the warehouse may be used to handle returned items when needed.

(V)   Accuracy
To achieve high levels of accuracy in e-tailing business, the firm must consider the right equipment to increase accuracy. This will augment the nature of its operations, and the level of adjustment that managers are willing to make to minimize human errors. But if companies gather and analyse warehouse performance statistics regularly, invest in automated data collection and verification systems and equipment to the extent possible, create efficient picking procedures, and train all employees thoroughly, then they can improve their accuracy level and streamline the customer fulfilment process. Order fulfilment rate, accuracy of order fulfilment and cost per order fulfilment are among important indicators need to be evaluated routinely.
In general the diagrammatic presentation of e-tailing activities of India would be as follows:
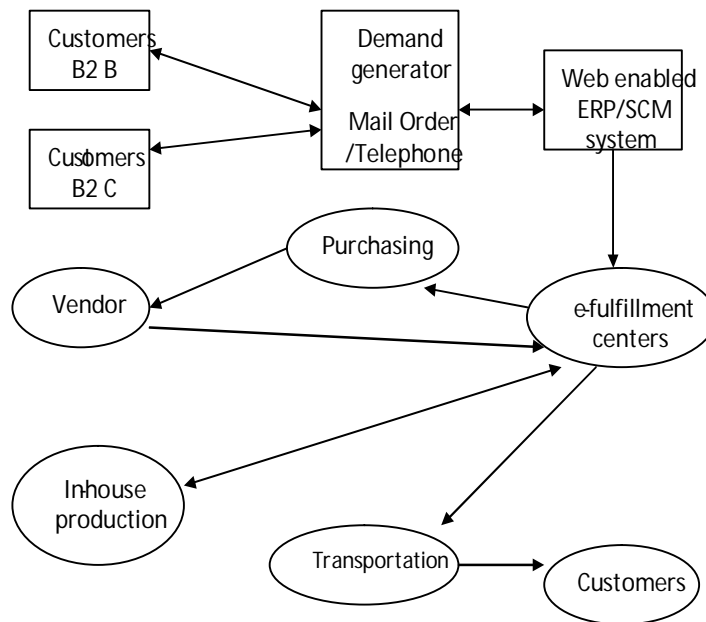
6. E-Tailing Companies in India
Today, online shopping has become part and parcel of the people all over the world. Online shopping sites gives a wide range of products and more stuffs to choose based on ones needs. Shopping online always has the advantage of price, many of the products will be discounted to a cheaper price. Customers will also be given online coupons, gift certificates, promotional codes based on special offers through which a considerable amount can be knocked off. One of the major advantages of online shops is that they provide complete information about the products such as – features, product description, sizes, models, colours, prices and many more details, customer reviews and ratings and the best part is they are open 24/7 and one

can shop at their convenience. Indiatimes, Fabmart, ebay, amazonindia, alibabaindia, flipkart.com, snapdeal.com, Rediffshopping give users a wonderful online shopping experience. Online shopping at these sites is quick and easy as the wide range of products are categorized in a very convenient and user friendly manner.

At this juncture let us look at the Supply Chain Infrastructure in India
SCM Defined

The Council of Logistic Management (CLM) (2000) defines SCM as "*the systematic, strategic coordination of the traditional business functions and tactics across these business functions within a particular organization and across business within a supply chain for the purpose of improving the long term performance of the individual organizations and the supply chain as a whole*".

Information is essential to making supply chain and logistic decisions, because IT provides the global scope needed to make optimal decisions. Best in class companies worldwide have successfully used sophisticated IT systems to streamline process and enable effective decision making. The information necessary to achieve global scope, corresponding to the different stages of the supply chain as 1) supplier information 2) manufacturing information 3) distribution and retailing information and 4) demand information.

Supply Chain Management Issues and Challenges in India

High Cost of Logistics.

Logistic cost is 13% of India's GDP in comparison to 11% in Europe and 9% in the U.S. of the total logistic cost, transportation represents 39%, while warehousing, packing and inventory accounts 24% of the total costs (365businessdays.com). Higher logistic costs are mainly due to poor infrastructure facilities in the country.

Physical infrastructure –a bottleneck insufficient distribution channels and infrastructure bottlenecks restrict the scope to reach consumer of products nationwide. Though the country has developed the largest road networks in the world, yet the regional concentration of manufacturing in Indian but geographically diversified distribution activities as well as infrastructure bottlenecks, e – infrastructural facility is not comparable to developed countries. Less than half of the roads were paved in India and less than 2000Km were express highways in 2007, which was significantly lower than china's 30,000Km (365businessdays.com). The scarcity of tracking technologies like global positioning systems (GPS),(www.scmr.com) the inability of ports to handle goods quickly, and the lack of modern technology in warehouse. Though there are considerable investment underway to address these issue, such as projects take large amount of time in India by comparison, emerging economic countries like China and Brazil have been able to complete infrastructural projects on a considerably shorter timeline.

The low Acceptance of Integrated Third Party Logistics (3PL)

Apart from the infrastructural challenges, business in India doesn't have the access to the best supply chain services for a variety of reasons. The low acceptance of integrated third party logistics (3PL) firms in India is one part of the problem. The cost differential between the integrated 3PL an existing transport firms is wide. So shippers find it difficult to justify the additional cost of a 3PL, even though they would be receiving high technology support and generally superior service from such provider. Further, the infrastructural challenge mentioned above constrains the internationally known 3PLs from operating with the same speed and efficiency as they do in developed economies.

Cost of Quality Service

According to industry analysts, logistic costs in India are among the world's highest. Outside of the metros and few cities the delivery time is very uncertain.

Technology usage and Inadequate Investments in IT

Technology usage is very low in India, which restricts the scope of increasing productivity and efficiency (365businessdays.com). Though India is a leading exporter of IT products, Indian companies are unfortunately least inclined to use them. Hence, the IT penetration in India is low. This is not surprising that Indian companies are 1.3% of the gross sales. For companies that use IT systems, there seem to be a clear bias towards using stand-alone IT systems. Using these systems would mean that collaboration would be low as these stand-alone systems are not friendly when it comes to implementing recent supply chain models like CPFR, VMI etc. in the present scenario the supply chain around the world is On Demand, using technology such as internet, mobile, wireless, RFID etc., whereas Indian supply chain is still to come out of this slumber.

7.   Improving the Supply Chain Capabilities in India for E-Tailing

Carefully Analyse the Infrastructure*:* it is important to consider infrastructural issues such as high ways, and access to ports and supporting the information technology.

Investment in IT
If the Indian companies are to adopt global supply chain standards and benchmarks against the global companies there is a long way ahead. In addition, this way starts with investment in information technology. This investment will go towards making companies connect with suppliers and partners. This connectivity will improve the visibility in the chain and thus collaboration can take place with partners. This collaboration will make the supply chain agile and align itself to the changing market demand.

Leverage IT Capabilities
The IT talent is not hard to find in India and Indian companies can use it to their advantage. They can employ trained IT engineers at lower cost as compared to the counterparts in other countries and thus become competitive.

Align Supply Chain Strategy with Business Strategy
So far, Indian companies have marketing, personnel, accounts and other departments but no supply chain department to speak of little. Purchase or procurement section has more or less carried out the supply chain and logistic functions. These departments however are not aligned to follow supply chain as a strategic area and are often not in harmony with other departments or with partners. Now the time is ripe to align competitive advantage, increase profitability, and market share in these challenging times.

Potential savings for India
Is possible if logistic costs decreases by 1%, approximately $4.8 billion per year as Indian GDP is 480 billions (Indian logistic cost per GDP is 13%)(365businessdays.com).

Significant Issue is Inventory
Managing inventory requires a delicate balance between carrying just enough expensive stock to avoid running out, but not too much to burden the balance sheet. There is one other aspect to carrying low inventory, however, that is important to note — it quickly uncovers problems elsewhere in the system. Any internal inefficiency that could be disguised under conditions of high inventory is rapidly exposed with low stocks. If orders are being received late, for instance, it might not be too noticeable when ample items are already sitting on the shelves. If the cupboard is bare, a late order will be glaringly obvious.

Shifting Products across Borders
As a result, a huge payoff for business comes from standardization and optimization in logistics. How can the cycle be shortened? How can inventory be pushed around better and faster? For businesses, it is easier to shift products from one location to another through various operations and touch points while maintaining consistency and standardization in terms of reporting in terms of values, duty, tariffs and so forth. Anything that can be done to reduce costs and improve efficiency in transferring goods across borders would be extremely helpful and welcome.

Out Sourcing
The same thing is true for the supply chain operators themselves. If they do not have a core competency for a task, they should also outsource the task to some other firm with better, lower cost options for completing it. It is, after all, just as important for supply chain operators and big manufacturers to be nimble and keep their own costs down. Their shareholders and Wall Street analysts are seeking high returns on investment, which requires them to avoid diverting company performance by insisting on performing non-key tasks in-house.
   One aspect that bigger supply chain operators bring to the task, however, is specialized knowledge of markets. Such an investment may not be something that lead firms want to make, but rather to outsource to their supply chain operators instead.

Pressures for Consolidation
These pressures are also magnified by the needs of some of the largest lead firms.
Since it is difficult and costly for them to constantly search for the best firms to work with on each contract, they prefer to go into partnership with a few large firms that can handle all aspects of their business. Such a strategic partner has incentives to make future investments in making sure both parties are at the forefront of technology and industry. A reliable partner is also more likely to know and understand the needs of the lead firm and to create solutions. Even with strong partnerships, some of the largest lead firms will struggle to stay competitive. Global competition can be brutal, with significant turnover among firms. New players are emerging all the time, especially now from developing countries. The pressures for expansion and consolidation throughout the supply chain industry, though, are also being offset to some extent by the entrance of larger numbers of e-commerce players. The barriers to entry in e-commerce are quite low and the industry is set to grow strongly in the future.

The Role of Transportation
Express delivery by air freight is frequently used for fast-moving consumer electronics, medical devices and pharmaceutical products, and precision instruments. It is also used for critical replacement and repair parts, and for samples and late orders.

In addition to speed, firms are increasingly using express companies because they can rely on door to-door delivery systems with careful tracking and monitoring of packages along the way.

However, one challenge that some companies and logistics firms face in using multiple transportation modes is that the management of transportation within government falls to different agencies. As a result, the rules regarding use of road, rail, ship, and air for freight are complex, fragmented, and vary tremendously across different countries. Soon a different collaborative strategy may be adopted to reduce the Supply Chain Cost significantly to achieve the global competitive advantage

Innovation
Supply chain operators are grappling with labour challenges. Getting sufficient workers with the right set of skills is proving to be difficult. As a result, more of the process is being automated with a higher reliance on information technology.
Singapore is trying to create something new in a "supply chain city." This is a dedicated, highly automated facility designed by YCH Group for up to 10,000 supply chain experts, professionals and practitioners. It has been designed from the beginning to allow for very flexible operations. For example, it allows firms to manufacture on the spot, change designs, test products, and prepare to scale up if things go well. It also includes a huge automated storage and retrieval system for inventory. The facility encourages the clustering of suppliers in one place. Singapore's Economic Development Board has strongly backed the project.

UPS is also moving into offering supply chain solutions where UPS employees increasingly perform warehousing and manufacturing operations for global companies. As an example, in Singapore, UPS provides repair and servicing of hard disk drives as part of a client firm's worldwide warranty operations. The facility takes advantage of the transportation links already in place for UPS to quickly and smoothly move goods in and out to customers as rapidly as possible.

Reverse Logistics.
Equally problematic can be policies that create extra challenges to servicing equipment. In many places, domestic rules make it too costly to allow a proper third-party repair hub to operate outside the country and allow products to flow easily across borders. This means that firms must set up suboptimal domestic repair operations, resulting in higher servicing costs for consumers and firms.

Other rules can make it hard for firms to operate in value chains. For example, lead firms may start operating in a market as a joint venture. If the business is successful, the lead firm may decide to take over the business from the joint venture partner. Even if the transition is entirely amicable between firms, government regulations could turn this into a nightmare. Customs officials may now regard the company as a "non-trusted company" in the same category as a new importer and subject to 100 per cent inspections, higher guarantees, and so forth.
Other problematic rules conflict with the value chain pressures to push inventory to suppliers. Lead firms may want suppliers to hold inventory. But in many territories, suppliers cannot hold inventory unless they are resident companies, as there are no provisions for non-resident importers. This could require suppliers to do all sorts of contortions to satisfy the domestic requirements that are not desirable from the perspective of a global value chain.

Another set of business obstacles comes from incompatible regulations and standards. Distribution centers currently need to carry two different sets of pallets — one for Europe and one standard size. If you want to ship products from Asia to the Russian Federation and on to Europe via rail, it needs to change cargos three times. Why? Because the rail width is different. Each change adds significantly to the cost and complexity of moving goods.

One bright spot is the creation of data messaging protocols for air freight. This will allow any airline transporting cargo to know exactly what data has been transmitted and ensure the quality of that data. It will also help secure the supply chain by limiting the handoffs or touch points along the chain. The buy-in for the program so far has been limited, particularly to countries that are technologically savvy. But, should the program spread in the future, the benefits could be significant.

The Importance of Global Free Trade
Not surprisingly, top supply chain and lead manufacturing firms believe passionately in the importance of maintaining free and open trade. The dream for many is to have the ability to source, ship and sell products in the most efficient locations, and to do so as seamlessly as possible. Falling transport and communications costs have made it easier than ever for companies to participate in a global economy.

Supply chain operators can be extremely creative, inventive problem solvers. They manage to bring together suppliers and lead firms from far-flung regions across the globe. Many persevere in the face of difficult obstacles, including a wide variety of policies that stand in the way of the smooth movement of goods.

One important lesson business leaders recognize is the need for continuous engagement with government policymakers. Without regular feedback and conversations with the policy community, neither side may be entirely aware of the obstacles faced by the other. Dialogues on global value chains can be one important mechanism for getting diverse groups to talk openly about key issues — and lead to better policy results.
Dramatic changes in supply chain architectures and objectives and their associated value systems are underway. Possible future architectures include:
- Changes in the supply base, e.g., far more sophisticated and sustainable
- Manufacture in Asia to sell in Asia, e.g., China is a huge domestic market

- Near shoring,   Manufacture to order, e.g., very flexible and rapid supply chains, and
- Adding value close to customers, e.g., final assembly and finishing.

Government policies and regulations are a very significant part of the business landscape and will influence future supply chain architectures and objectives. Inconsistencies across jurisdictions incentivize regulatory arbitrage. Government policies clearly impact the magnitude and accessibility of market opportunities as through barriers to entry, regulation of competition, procurement practices and the advocacy of particular technologies. Government policies affect the dynamics of product, service and business model innovation. Governments can drive the virtuous dynamics by reducing the risks for other participants, such as through the establishment of standards, protection of intellectual property, being a lead user of innovative technology, tax incentives for risky investments and making markets more open, transparent and efficient. Product regulatory laws in various countries need to be adhered to. Another area of importance is documentation. This will reduce the consignment idle time at ports awaiting customs clearance.

The Business landscape is Changing
The business landscape is changing rapidly and, in many respects, discontinuously. Supply chains face significant disruptions in the markets where they operate and an inflection point for the sources of value and growth. Many factors are combining to reshape supply chains and their associated value systems. These dynamics are connected. They reinforce and accelerate one another. The principal drivers of change are:
- Adoption and commoditization of broadband
- Innovations in media and e-commerce
- Increased market transparency
- Deconstruction of integrated value chains
- A discontinuity in consumer aspirations and use of technology

There are two immediate consequences of the dynamics. The most profitable elements of the value system are exposed to competitive attack and new forms of intermediation and aggregation are challenging established relationships. The most profitable elements of the value chain are being attacked in several ways. Major players in adjacent industries, including large logistics companies such as FedEx, see the opportunities and target them. New entrants like Alibaba also focus on these particularly attractive elements of the value chain. Fragmentation of the value chain stimulates new forms of intermediation and aggregation, which further decompose it and add complexity.

Value Systems are Dynamic

Dynamics of the value system
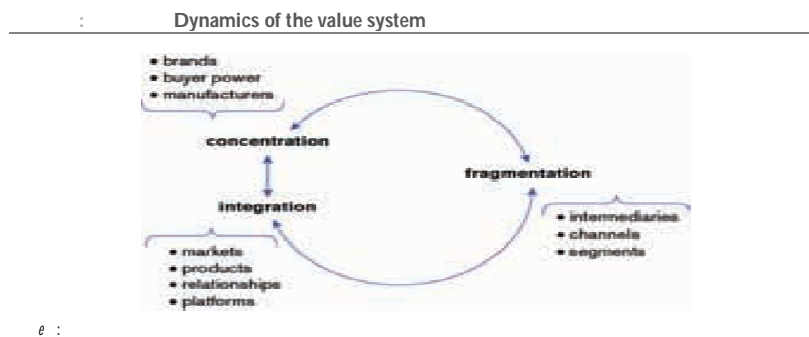
Consider what is happening in retailing:
- Aggregators use the buying power of a large group of customers,
- Infomediaries help customers find the best products and prices,
- Exchanges bring buyers and sellers together,
- Integrators link products, services, and content into a complete solution,
- Commoditization is often the unintended result of intense competition. But it also can be a deliberate strategy. There is nothing new about this. The hardware is a platform for selling other products, content and applications. This strategy requires a supply chain that can deliver the hardware at a very low cost because of significant economies of scale.
- Sometimes elements of service are commoditized in order to eliminate barriers to entry and sell complementary, highly value-added services. Market intelligence may be used to acquire and anchor customers for other supply chain services.
- In this ecology the quick will defeat the big. The ultimate winners will be the few companies capable of moving
- Quickly.

Destruction of the existing value chain
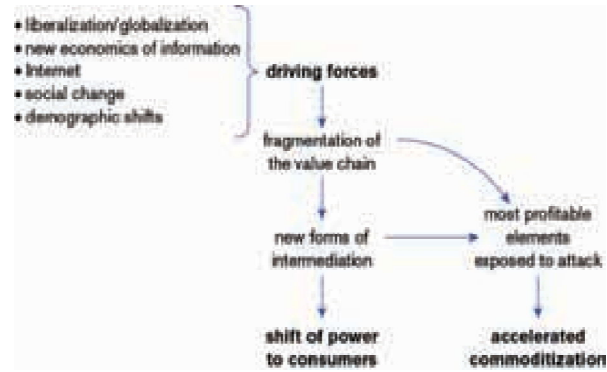
The need for Change Is Imminent

Supply chain members must contend with a set of complex, interrelated strategic issues:

- Greater bi-directionality as in bringing products to developing markets, handling e-commerce returns, recycling products at the end of their lives
- Serving domestic markets as well as exports, addressing the explosive demand for goods and services in China, India, and other markets
- Major changes in where and how value is created and captured as through product design, development of powerful brands, and e-commerce
- Where innovation occurs and its character, for example: China becoming a hotbed of creativity, innovation around customer experiences and other intangibles
- Integrated versus specialist business models – anticipating cycles in supply chain architectures and their associated value system
- Off-shoring versus near-shoring as with increased importance of regional supply chains, emphasis on adding value close to customers
- Achieving and maintaining supply chain integrity such as building trust, turning "made in China" from a negative into a plus, and
- New business models including close follower to demand trends, produce to order, rapid production scale-up and integrated end-to-end solutions

The imperatives for success in this new market ecology begin with greater coordination among supply chain members. There are many opportunities to create value through collaboration and information sharing and to combine capabilities and information in ways that serve customers better. The key is quick wins with clear financial payoffs. Hence information visibility becomes the foundation for all other levers.

The sources of value and growth are shifting significantly. Principal businesses such as wholesaling, retailing, brands and financial services are more capital intensive than sourcing based on the agency model. With more capital at risk customer information and market intelligence have become critically important. The next stage is to develop a portfolio of third-generation value-added services for suppliers, retailers and brand owners. In addition to product design and development, these services could include market intelligence, hosted platforms and applications, managing sustainability and advice regarding best practices in manufacturing, sustainability and supply chain integrity, and e-commerce solutions.

These services are "third-generation" because they are significantly more dependent on technology and formal intellectual property, as with databases, software and models, than the first-generation agency services and second-generation principal businesses. The future is in value-added services and customer experiences based on innovative use of information and sophisticated analytics. This will require investments in IT platforms, intellectual property and people with new skills and capabilities. Supply chain members must decide when to develop these assets internally and when to buy them through acquisitions and venture investments. A company should use, in a timely and appropriate way, a broad range of business development strategies, including alliances, joint ventures, licensing, equity investments and mergers and acquisitions, in order to perform optimally over its underlying technology life cycle.

The lead time for building revenues and profits from third-generation services is significant and the successful business models are unclear, but think of retail merchandise managers using a portal for market analysis, sourcing, procurement, supply chain optimization, inventory control and multi-channel fulfilment. The immediate challenge is to start and accelerate the learning process regarding which services customers and suppliers want and need, how to demonstrate their value, the right business models to monetize them and how to defend them from commoditization.

Innovation is a key element of a successful response to the changing business landscape. But innovation is not easy. Large, mature companies often lack the capabilities to be successful with a disruptive product or service innovation. There are

significant obstacles that should be reduced or eliminated. Successful innovation is a journey defined by the lessons learned from a series of quick, low-cost experiments. The willingness to experiment and ability to learn are critical success factors.

The imperative now should be to get started quickly, simply and inexpensively. The objective of these experiments is to demonstrate an idea and its value by making the innovation tangible. Quick wins reinforce the commitment to innovation and accelerate the virtuous dynamics of learning and value creation. Research has highlighted critical success factors for innovation initiatives.

- Experiment inexpensively and often – overcome the bias toward doing things on a large scale and the aversion to anything "quick and dirty"
- Prototype early – expect this to be an iterative process, assume you won't get it right the first time, and show the prototype to customers
- Empower managers two to three levels from the top to approve and fund experiments – most of the time this can be business unit leaders
- Expect failures – encourage people to try and enable them to "fail soft" without career damage
- Involve customers – listen to them, learn from them and recognize that often they are the source of innovation
- Use social networks to encourage and reward sharing – the business benefits must come first, then the personal satisfaction
- Create much more value from existing assets – make innovative use of current capabilities, information and relationships
- Establish mechanisms for internalizing new technologies – eliminate the obstacles to collaboration with smaller ventures and outside vendors, and
- Show the payoff in practical terms – measure the effect on customer satisfaction and retention, staff turnover and productivity, revenues and profits

Supply chain members need to get ahead of customers regarding e-commerce. Many still are racing to catchup. The current lack of e-commerce understanding and capabilities and the obstacles to effective collaboration with small ventures and other sources of e-commerce technology are very serious problems. Bold action is required to deal with them.

Differences among supply chains are important for how we think about change and policy impacts. The following typology recognizes differences along four dimensions:

- Architecture – modular versus integral relationships, global versus regional, physical flows versus digital
- Objectives – cost, quality, speed, flexibility, innovation, resilience, policy benefits
- Sources of value – manufacturing, services, retailing, brands, design, intellectual property, and
- Key dynamics – competition, commoditization, clock speed, fragmentation, integration, concentration.

The major challenge facing supply chain members is to prepare for a very different business landscape, sooner than most expect. Some understand the need for change and the changes that are needed, but others do not. Many are thinking incrementally and seem over-confident, even complacent.. The capabilities, culture and beliefs that made a company successful become constraints that cause insufficient and ineffective responses to market disruptions.

Our understanding of the dynamics that are reshaping global supply chains is incomplete. The influences of government extend beyond trade policies, taxation and market regulation. They can include proactive collaboration with the private sector to create enabling infrastructure and resources. How do these initiatives affect the objectives, architecture and sources of value and key dynamics of supply chains? Much of the literature on supply chains focuses on products. Services, including finance, healthcare, education, and entertainment have their supply chains, too. How do service supply chains differ from those for products? What are the implications of the digitalization and virtualization of services? These are very fertile areas for research.

8. Conclusions

India is one of the world's fastest growing economies with diverse markets. E-tailing market is growing rapidly. This is a golden opportunity for the Supply Chain & Logistics organisations. When our customers are more demanding managing supply chain in such a vast country is most challenging for any organization because of business practices, government regulations, technology capabilities, transportation infrastructures etc. The current paper has explored the state and issues of supply chain management of India in the context of growing e-tailers in India. To achieve an improved performance, Indian organizations should focus on applying techniques which offer a strategic opportunity for companies to gain an increase in revenue. This is possible by improving the infrastructural development and refocusing on integrating IT with supply chain management and Logistics. Organizations must realize that they must harness the power of IT to collaborate with their business alliances. Even the Govt owned Indian Postal System can play a vital role due to its vast resources and reach throughout the country. In this growing market the postal system if enters can create huge revenues to the national exchequer In Dutch & UK the postal system is utilised for delivery of goods to the customer of e-tailing companies. In this growing market and create huge revenues to the exchequer.

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